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Bibliography

(19) [Country of Issue] Japan Patent Office (JP)

(12) [Official Gazette Type] Open patent official report (A)

(11) [Publication No.] JP,2002-35281,A (P2002-35281A)

(43) [Date of Publication] February 5, Heisei 14 (2002. 2.5)

(54) [Title of the Invention] Game machine

(51) [The 7th edition of International Patent Classification]

A63F 7/02 319

[FI]

A63F 7/02 319

[Request for Examination] Tamotsu

[The number of claims] 8

[Mode of Application] OL

[Number of Pages] 12

(21) [Filing Number] Application for patent 2000-227709 (P2000-227709)

(22) [Filing Date] July 27, Heisei 12 (2000. 7.27)

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[Theme code (reference)]

2C088

[F term (reference)]

2C088 AA31 AA33 EB60

[Translation done.]

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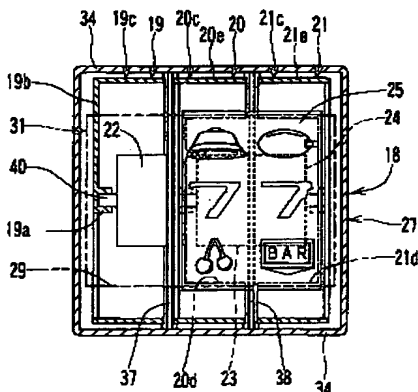
Summary

(57) [Abstract]

[Technical problem] On the basis of mechanical composition, while, the uniform change display of a pattern can be prevented and the game machine whose production nature of a change display of a pattern improves is offered.

[Means for Solution] It is arranged inside two or more time fuselages 19-21 with which two or more kinds of 1st pattern required for a game was expressed, the driving means 22-24 which drive separately each of these time fuselages 19-21, and two or more time fuselages 19-21, and has the display meanses 25, 25B, and 25C which can change display the 2nd pattern corresponding to the time fuselages 19-21.

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CLAIMS

[Claim(s)]

[Claim 1] The game machine characterized by providing the following. Two or more two or more kinds 1st pattern (43) fuselage [with which - (45) was expressed / time] (19) - required for a game (21) Each [this] time fuselage (19) driving-means [which drive - (21) separately] (22) - (24) it arranges inside two or more aforementioned time fuselage (19) - (21) -- having -- and this time fuselage (19) - (21) -- corresponding -- the display means (25) (25B) (25C) which can change display the 2nd pattern (46) and (47) (66B) (66C)

[Claim 2] The 1st pattern (43) of the above Game machine according to claim 1 characterized by having with a profits state generating means (55) to make a game person generate a profits state with the combination of - (45) and/or the 2nd pattern (46), and (47) (66B) (66C).

[Claim 3] The game machine according to claim 1 or 2 characterized by having the 2nd pattern control means (64) which fluctuate the 2nd pattern (46) of the above, and (47) (66B) (66C), and a predetermined pattern is chosen [control means] from two or more kinds of 2nd pattern (46) of the above, and (47) (66B) (66C), and indicate by halt.

[Claim 4] A part of 2nd pattern (46) of the above and at least (47) (66B) (66C) are a game machine given in any of the claims 1-3 characterized by being value equivalent to 1st pattern [of the above] (43) - (45) they are.

[Claim 5] A game machine given in any of the claims 1-4 characterized by having arranged the aforementioned display means (25) (25B) (25C) ranging over adjacent two or more aforementioned time fuselage (19) - (21) they are.

[Claim 6] Middle display means by which it is as of the same kind between two or more aforementioned time fuselages (19) and (21) as the aforementioned display means (25B) (25C) (25A) It arranges. This middle display means (25A) Game machine given in any of the claims 1-5 characterized by preparing each aforementioned display means (25B) by the side of the interior of each aforementioned time fuselage (19) and (21) (25C) in one at both sides they are.

[Claim 7] Aforementioned time fuselage (19) - (21) by which the aforementioned

display means (25) (25B) (25C) has been arranged inside Check-by-looking section (19d) – which can check the aforementioned display means (25) (25B) (25C) side by looking (21d) It has. It is aforementioned check-by-looking section (19d) – (21d) after rotation. So that it may stop corresponding to the aforementioned display means (25) (25B) (25C) The aforementioned time fuselage (19) Game machine given in any of the claims 1–6 characterized by having the 1st pattern control means (63) which rotate – (21) and fluctuate 1st pattern [of the above] (43) – (45) they are.

[Claim 8] Aforementioned time fuselage (19) – (21) by which the aforementioned display means (25) (25B) (25C) has been arranged inside Check-by-looking section (19d) – which can check the aforementioned display means (25) (25B) (25C) side by looking (21d) Covered section (19e) – which cannot be checked by looking (21e) It prepares for a hoop direction. It is aforementioned check-by-looking section (19d) – (21d) after rotation. Aforementioned covered section (19e) – (21e) So that it may stop alternatively corresponding to the aforementioned display means (25) (25B) (25C) The aforementioned time fuselage (19) Game machine given in any of the claims 1–6 characterized by having the 1st pattern control means (63) which rotate – (21) and fluctuate 1st pattern [of the above] (43) – (45) they are.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to game machines, such as a pachinko machine, an arrangement ball machine, a mahjong ball game machine, and a **** type game machine.

[0002]

[Description of the Prior Art] There is a thing equipped with the change pattern display which can change display two or more game patterns in pinball machines, such as a pachinko machine, and a slot machine. The change pattern display used

for this kind of game machine has the common thing of mechanical composition of having made the rotating drum as which two or more kinds of patterns were displayed on the periphery side by the hoop direction correspond to a pattern viewing area, and having arranged more than one to the longitudinal direction conventionally.

[0003] When there is a change demand from a change demand means by detection of a game sphere, or operation of a game person, this Automatically [when each rotating drum rotates, the pattern is indicated by change at a pattern viewing area and predetermined-time progress is carried out from a change start] by or halt operation of a game person When each rotating drum stops in predetermined sequence and the pattern corresponding to the pattern viewing area of each of that rotating drum becomes a specific mode (specification should put together), game media, such as predetermined coin, are paid out to a game person, or a profits state advantageous to a game person is generated.

[0004]

[Problem(s) to be Solved by the Invention] In order that the conventional change pattern display may display two or more kinds of patterns on the periphery of a rotating drum fixed and may only fluctuate the pattern corresponding to a pattern viewing area by rotation of a rotating drum, on the other hand, the hand of cut of a rotating drum tends to become a uniform change display by Mukai, its stage effects by the change display of a pattern are low, and it has the fault in which the interest over a game person's game is reduced.

[0005] In view of such a conventional trouble, on the basis of mechanical composition, this invention can prevent the uniform change display of a pattern, while, and it aims at offering the game machine whose production nature of a change display of a pattern improves.

[0006]

[Means for Solving the Problem] Two or more time fuselages 19-21 with which two or more kinds of 1st pattern 43-45 which needs this invention for a game was expressed, It is arranged inside the driving means 22-24 which drive separately each of these time fuselages 19-21, and two or more aforementioned time fuselages 19-21, and it corresponds to these time fuselages 19-21, and is the 2nd pattern 46, 47, 66B, and 66C. It has the display meanses 25, 25B, and 25C in which a change display is possible.

[0007]

[Embodiments of the Invention] Hereafter, the operation form of this invention is explained in full detail based on a drawing. Drawing 1 - drawing 7 illustrate the 1st operation form of this invention. It sets to drawing 1 and is 1. Front frame 2 which is a main part of a game machine and was pivoted free [opening and closing] It has. front frame 2 **** — the game board 3 it equips free [attachment and detachment] from a background — having — this game board 3 an anterior — glass door 4 Front board 5 It is arranged free [opening and closing]. front board 5 **** —

— upper pan 6 which stores the game sphere for discharge It is equipped. Front frame 2 Lower pan 7 which stores a surplus sphere in the lower part Discharge means 8 Discharge handle 9 It is prepared, respectively.

[0008] the game board 3 **** — while being annularly equipped with a guide rail 10 — the game field 11 inside the guide rail 10 — the 1st change pattern display means 12, the 2nd change pattern display means 13, the 1st change demand means 14, the 2nd change demand means 15, and the adjustable winning-a-prize means 16 — the game parts of winning-a-prize means 17 grade are usually arranged

[0009] The 1st change pattern display means 12 is constituted, as it is for fluctuating the 1st below-mentioned pattern and the 2nd pattern by random number control, and indicating by halt after change of a predetermined time and is shown in drawing 2 — drawing 5 by change demand when the 1st change demand means 14 detects a game sphere. Namely, the rotating drums [two or more (for example, three pieces)] 19-21 by which this 1st change pattern display means 12 has been arranged in the display case 18 at the longitudinal direction, The drive motors 22-24 which drive separately each of these rotating drums 19-21 (driving means), Adjacent plurality 20 and 21, for example, two rotating drums, It has the liquid crystal display means 25 which straddled and has been arranged to the interior, and a change display of three patterns is [two or more] possible to a longitudinal direction at least.

[0010] the display case 18 — the game board 3 the front trim case 26 with which the front-face side was equipped free [attachment and detachment], and the shape of a rectangle and the other receipt cases 27 with which the background of the front trim case 26 was equipped free [attachment and detachment] — having — the receipt case 27 — the game board 3 installation — it fitted into the hole 28 and has projected back It has the hood 30 which the front trim case 26 is formed in this pattern display window [which was prepared in the transverse-plane side in the shape of opening] 29, and pattern display window 29 bottom, and projects ahead, and the 2nd change pattern display means 13 is established in the center of abbreviation of the longitudinal direction of the hood 30.

[0011] The pattern display window 29 is a size which has the right-and-left width of face which can display the 1st pattern of rotating drums 19-21, and the vertical width of face which can display the 1st pattern of three coma in one coma or two or more coma, for example, the vertical direction, when rotating drums 19-21 are idle states, and is constituted by the shape of a rectangle, and other proper configurations, and the interior of this pattern display window 29 serves as the pattern viewing area 31. The pattern display window 29 is blockaded by the covering 32 arranged at the anterior of rotating drums 19-21.

[0012] Covering 32 incurvates a rotating-drum 19-21 side circularly along with the periphery of rotating drums 19-21 by synthetic-resin material possible a check by looking and transparent etc. from before, and is constituted, and the display case 18 is equipped with it free [attachment and detachment]. Covering 32 equips vertical

ends with the engagement presser foot stitch tongue 33, and is engaging with the engagement section 35 by which the engagement presser foot stitch tongue 33 was formed in the wall 34 of the vertical both sides of the receipt case 27 free [engaging and releasing]. In addition, three winning-a-prize lines 36 of a longitudinal direction and the two directions of slant are shown into the portion corresponding to the pattern viewing area 31 by covering 32. However, this winning-a-prize line 36 is not necessarily required.

[0013] Rotating drums 19-21 are the support plates 37 and 38 which the longitudinal direction was made to approach at intervals of predetermined in the receipt case 27, have been arranged, and were fixed free [attachment and detachment] in the receipt case 27. It is supported free [rotation] at the circumference of the horizontal-axis heart. Support plates 37 and 38 It is arranged between each rotating drum 19-21, and the support plate 37 of one of these is equipped with the drive motor 22 corresponding to the rotating drum 19 by the side of an end free [attachment and detachment], and they are each rotating drums 20 and 21 to the both sides of the support plate 38 of another side. Corresponding drive motors 24 and 25 It is equipped free [attachment and detachment].

[0014] each drive motors 22-24 -- the inside of a rotating drum 19-21 -- fitting in -- support plates 37 and 38 while being fixed -- support plates 37 and 38 an opposite side -- driving shafts 40-42 -- having -- the driving shafts 40-42 -- the hub by the side of a rotating drum 19-21 -- section 19a - 21a It is fixed free [attachment and detachment]. a hub -- Sections 19a-21a Support plates 37 and 38 Fork section 19b - 21b prepared in rotating drums 19-21 by the opposite side It is fixed. Therefore, each rotating drums 19-21 are supported by the driving shafts 40-42 of drive motors 22-24 free [rotation].

[0015] In addition, support plates 37 and 38 It is enough if it is the structure which does not necessarily need to prepare between the adjacent rotating drums 19-21, and can support rotating drums 19-21 through drive motors 22-24, and can support the liquid crystal display means 25 by the support plate 38 of one of these. However, they are support plates 37 and 38 between the adjacent rotating drums 19-21. The number can be lessened when it has arranged.

[0016] Drum section 19c of rotating drums 19-21 - 21c The whole is constituted by the synthetic-resin material which cannot check the interior by looking. however, rotating drums 20 and 21 by which the liquid crystal display means 25 has been arranged inside **** -- As shown in drawing 7 (A), they are the drum sections 20c and 21c. They are the check-by-looking sections 20d and 21d for two or more coma to a hoop direction possible [correspondence for the liquid crystal display means 25] to a part. One piece is prepared. The check-by-looking sections 20d and 21d When a rotating drum stops corresponding to the pattern viewing area 31, it has a size which can check the 2nd pattern of two or more coma by the side of the liquid crystal display means 25 by looking. Therefore, rotating drums 20 and 21 Drum sections 20c and 21c The check-by-looking sections 20d and 21d which can check

the internal liquid crystal display means 25 side by looking The covered sections 20e and 21e which cannot be checked by looking It prepares for the hoop direction.

[0017] In addition, the check-by-looking sections 20d and 21d Rotating drums 20 and 21 Drum sections 20c and 21c Although constituted by the formed notching section or opening, the convex lens the transparent board which can check the liquid crystal display means 25 side by looking, and for expansion etc. may also close. Moreover, the check-by-looking sections 20d and 21d Also in the size corresponding to the number of coma of one coma of the 2nd pattern, two coma, or three coma or more, it is good and they are rotating drums 20 and 21. A predetermined interval may be set to a hoop direction and may be prepared in it. [two or more] In this case, two or more check-by-looking sections 20d and 21d Inside, its part, or all the check-by-looking sections 20d and 21d You may change the size of a hoop direction so that the numbers of coma which can check the 2nd pattern by looking may differ.

[0018] Drum section 19c of each rotating drums 19-21 - 21c As shown in drawing 7 (A), two or more kinds of 1st pattern 43-45 required for a game sets abbreviation regular intervals to a hoop direction, and is prepared in the peripheral face at it. The 1st pattern 43-45 has an interval corresponding to the pattern viewing area 31 in a part for two or more coma which adjoins the hoop direction, for example, three coma, when rotating drums 19-21 stop. Rotating drums 20 and 21 The 1st near pattern 44 and 45 The check-by-looking sections 20d and 21d It is arranged at abbreviation regular intervals at criteria.

[0019] In addition, the 1st pattern 43-45 is shown for the 1st pattern 43-45 by the peripheral face of rotating drums 19-21 by two or more coma at the hoop direction by making into the 1st pattern group a bell, BAR and JAK7, a plum, a cherry, and other two or more coma that the pattern is used suitably and combined suitably the of-the-same-kind pattern and the different-species pattern.

[0020] The liquid crystal display means 25 is display screen 25a of an anterior. While being constituted in the shape of flatness, it is made to correspond to the vertical width of face of the pattern viewing area 31, and they are rotating drums 20 and 21. It is positively arranged near the inner circumference and the support plate 38 is suitably equipped free [attachment and detachment] through the installation means. The liquid crystal display means 25 is two or more kinds of 2nd pattern 46 and 47 required for a game. A change display is possible. Two or more kinds of 2nd pattern 46 and 47 displayed one by one in predetermined sequence The same as that of the hand of cut of rotating drums 19-21, or after indicating by change by the predetermined change pattern along with an opposite direction, The 2nd adjacent pattern 46 and 47 They are the check-by-looking sections 20d and 21d at least inside. It corresponds and is the 2nd pattern 46 and 47 for one coma, two coma, or three coma. It chooses alternatively and indicates by halt. In addition, the liquid crystal display meanses 25 are each rotating drums 20 and 21 at a idle state. Check-by-looking sections 20d and 21d It corresponds, for example, is the 2nd pattern 46 and 47 of a maximum of 3 coma to the vertical direction. It is th size

which can be displayed.

[0021] two or more kinds of 2nd pattern 46 and 47 displayed on the liquid crystal display means 25 As at least a part is as of the same kind as the 1st pattern 43-45 by the side of a rotating drum 19-21 and it is shown in drawing 7 (B) A bell, BAR and JAK7, a plum, a cherry, and other two or more coma that the pattern is used suitably and combined suitably the of-the-same-kind pattern and the different-species pattern are made into the 2nd pattern group like the 1st pattern 43-45.

[0022] moreover, the 2nd pattern 46 and 47 The 2nd pattern 46 and 47 by which it is indicated by halt at the liquid crystal display means 25 making into a specific mode the case where it becomes the 1st pattern 43 by the side of other rotating drums 19 which stop corresponding to the winning-a-prize line 36 top, and an of-the-same-kind pattern etc. -- at least -- a part (the all or in part) -- it has value equivalent to the 1st pattern 43-45 of each rotating drums 19-21

[0023] By change demand when a change display of one pattern is possible and the 2nd change demand means 15 detects a game sphere one or more, the 2nd change pattern display means 13 fluctuates the pattern by random number control, and is stopped after change of a predetermined time. In addition, ten kinds of number patterns to 0-9 are used for the pattern of the 2nd change pattern display means 13.

[0024] It is opening-and-closing presser-foot-stitch-tongue 14a of the right-and-left couple which conversion in the 1st disadvantageous state (closed state) for a game person and the 2nd advantageous state (open state) can be possible for the 1st change demand means 14, and can be opened and closed freely. It has and the electric tulip etc. is used. In addition, the 1st change demand means 14 is opening-and-closing presser-foot-stitch-tongue 14a, when the pattern after change of the 2nd change pattern display means 13 is the predetermined mode defined beforehand. Predetermined-time opening is carried out. The 2nd change demand means 15 is constituted by the passage gate etc.

[0025] Conversion in the 1st disadvantageous state (closed state) for a game person and the 2nd advantageous state (open state) is possible for the adjustable winning-a-prize means 16. The halt pattern corresponding to [have the opening-and-closing board 48 supported pivotably free / opening and closing / by the horizontal axis by the side of the lower part, and] each winning-a-prize line 36 to after change of the 1st change pattern display means 12 is a specific mode (for example, as shown in "7, 7, and 7"). When the specific pattern defined beforehand or a specific pattern becomes should put together, the opening-and-closing board 48 opens wide to an anterior, and shifts to a game state advantageous to a game person.

[0026] The specific field 49 is established in the interior at the adjustable winning-a-prize means 16, and a game state is made to continue specially when a game sphere passes through this specific field 49. In addition, the adjustable winning-a-prize means 16 repeats switching action to the number of times of maximum predetermined (for example, 16 times), when a predetermined time (for example, for 30 seconds) passes after opening, or on condition that the opening-and-closing

board 48 is closed on condition that any when the game sphere of a predetermined number (for example, ten pieces) wins a prize, or formation of the earlier one, and a game sphere passes through the specific field 49.

[0027] Drawing 6 is a block diagram which illustrates a control system. In drawing 6, 50 is a game control board, and it is the game board 3. Main parts 1 of a game machine, such as a rear cover of a background The predetermined part of a background is equipped free [attachment and detachment]. 51 is a display-control substrate and the background of the 1st change pattern display means 12 etc. is the main part 1 of a game machine. The predetermined part of a background is equipped free [attachment and detachment]. In addition, the game control board 50 and the display-control substrate 51 are constituted by the separate substrate, and are contained by the same or separate substrate case.

[0028] In the game control board 50, it is mainly the game board 3. It is equipped with the game control means 52 which control near game operation. The game control means 52 are equipped with the 1st game lottery means 53, the 1st game judging means 54, the 1st profits state generating means 55, the 2nd game lottery means 56, the 2nd game judging means 57, the 2nd profits state generating means 58, and instruction information transmitting means 59 grade, and are constituted by CPU, ROM, RAM, etc.

[0029] The display-control substrate 51 is equipped with a 1st change display-control means 60 to mainly perform the display control by the side of the 1st change pattern display means 12, and a 2nd change display-control means 61 to perform the display control by the side of the 2nd change pattern display means 13. The 1st change display-control means 60 is equipped with the instruction information analysis means 62, the 1st pattern control means 63, and 2nd pattern control-means 64 grade, and is constituted by CPU, ROM, RAM, etc.

[0030] It is for the 2nd game lottery means 56 generating the random number for the 2nd game determination of a predetermined number one by one, such as generating the random number value of ten pieces to 0-9, when the probability of occurrence of for example, a predetermined mode is 1/10, and casting lots in which random number value of the random number for the 2nd game determination, on condition that a change demand of the 2nd change demand means 15. The 2nd game judging means 57 is for judging whether the 2nd game state is generated based on the lottery random number value of the 2nd game lottery means 56, and when the lottery random number value in the 2nd game lottery means 56 is the 2nd game decision value, it is judged to be the 2nd game.

[0031] The 2nd game judging means 57 judges with the 2nd game, on condition that the pattern after change of the 2nd change pattern display means 13 is decided in a predetermined mode, the 2nd profits state is generated, and the 2nd profits state generating means 58 is opening-and-closing presser-foot-stitch-tongue 14a of the 1st change demand means 14. It is for making it open wide a predetermined time (for example, 0.5-second about room).

[0032] It is for the 1st game lottery means 53 generating the random number for the 1st game determination of a predetermined number one by one, such as generating the random number value of 350 pieces to 0-349, when the probability of occurrence of for example, a specific mode is $1/350$, and casting lots in which random number value of the random number for the 1st game determination, on condition that a change demand of the 1st change demand means 14.

[0033] The 1st game judging means 54 is for judging whether the 1st game state is generated based on the lottery random number value of the 1st game lottery means 53, and when the lottery random number value in the 1st game lottery means 53 is the 1st game decision value (for example, random number value "7"), it is judged to be the 1st game.

[0034] There is the 1st game judging with the 1st game judging means 54, and the 1st profits state generating means 55 is the 1st pattern 43-45 and the 2nd pattern 46 and 47 on the winning-a-prize line 36 of the 1st change pattern display means 12. After a halt pattern serves as a specific mode, it is for generating the 1st profits state advantageous to a game person. This 1st profits state generating means 55 opens the opening-and-closing board 48 of the adjustable winning-a-prize means 16 wide. When a predetermined time (for example, for 30 seconds) passes after the opening, the opening-and-closing board 48 is closed by any when the game sphere of a predetermined number (for example, ten pieces) wins a prize, or formation of the earlier one. Switching action is made to continue to the number of times of maximum predetermined (for example, 16 times), on condition that a game sphere passes through the specific field 49.

[0035] Whenever the instruction information transmitting means 59 has a judgment result from the 1st game judging means 54 based on a change demand of the 1st change demand means 14, the judgment result of the 1st game or the 1st non-game, the 1st pattern 43-45 by the side of the 1st change pattern display means 12 at that time, and the 2nd pattern 46 and 47 etc. -- the predetermined instruction information about change time is transmitted to the 1st change display-control means 60 of the display-control substrate 51 by 1 direction communication. In addition, the turnover time of each rotating drums 19-21 and the change display time of the liquid crystal display means 25 are sufficient as change time, and the time from the change start by the side of the 1st change pattern display means 12 to a halt is sufficient as it.

[0036] While the 2nd change display-control means 61 carries out predetermined-time change of the pattern of the 2nd change pattern display means 13 based on the judgment result of the 2nd game judging means 57. Change control of the 2nd change pattern display means 13 is carried out that the pattern should be stopped according to a judgment result so that may stop in a predetermined mode after changing in the 2nd game judging, and it may stop in a non-predetermined mode, respectively, after changing in the 2nd non-game judging.

[0037] The 1st pattern control means 63 are for controlling change of the 1st

pattern 43-45 by rotation of each rotating drums 19-21, and halt, and a halt. According to the judgment result of the 1st game judging analyzed with the instruction information analysis means 62, and the 1st non-game judging, and the instruction information on change time, predetermined-time rotation of the rotating drums 19-21 is carried out with drive motors 22-24. Each rotating drums 19-21 are stopped in predetermined sequence like the left, the right, and the middle class.

[0038] When the judgment result of the 1st game judging means 54 is the 1st game judging, the 1st pattern control means 63 again The 1st pattern 43 on the winning-a-prize line 36 of a rotating drum 19 turns into a specific pattern. Rotating drums 20 and 21 Check-by-looking sections 20d and 21d Each rotating drums 19-21 are stopped so that it may correspond to the liquid crystal display means 25 on the winning-a-prize line 36. In the 1st non-game judging, the 1st pattern 43 on the winning-a-prize line 36 of a rotating drum 19 becomes with the pattern (a specific pattern, a homotypic, or a different-species pattern is included) in which it does not specify. Rotating drums 20 and 21 Check-by-looking sections 20d and 21d It corresponds to the liquid crystal display means 25 on the winning-a-prize line 36, or they are the check-by-looking sections 20d and 21d. Each rotating drums 19-21 are stopped so that it may separate from the pattern viewing area 31.

[0039] The 2nd pattern control means 64 are the 1st pattern 44 and 45. When the rotational speed of rotating drums 19-21 falls to an identifiable speed by viewing The 1st pattern 44 and 45 It synchronizes with a change display and is the 2nd pattern 46 and 47. Change is made to start etc. They are rotating drums 20 and 21 at least. After a halt, it is two or more kinds of 2nd pattern 46 and 47. According to predetermined array sequence, it indicates by change by the same or change pattern predetermined to an opposite direction etc. as the hand of cut of rotating drums 20 and 21. The 2nd predetermined pattern 46 and 47 for three coma It is for indicating by halt.

[0040] The 2nd pattern control means 64 are the 2nd pattern 46 and 47 so that it may become the 1st pattern 43 on the winning-a-prize line 36 of a rotating drum 19, and an of-the-same-kind pattern when the judgment result of the 1st game judging means 54 is the 1st game judging, and one side may serve as the 1st pattern 43 on the winning-a-prize line 36 of a rotating drum 19, and a different-species pattern in the 1st non-game judging. It is made to stop, respectively. Each rotating drums 20 and 21 of the liquid crystal display means 25 The 2nd corresponding pattern 46 and 47 Rotating drums 20 and 21 According to halt sequence, it stops one by one. In addition, the 2nd pattern control means 64 are rotating drums 20 and 21. It is the 2nd pattern 46 and 47 of the liquid crystal display means 25 also during rotation. You may be made to indicate by change.

[0041] A game is faced in the above-mentioned pinball machine, and it is the discharge means 8. Discharge handle 9 It is operated and is the discharge means 8. A guide rail 10 is met in a game sphere, and it is the game board 3 one by one. It is made to discharge to a side and goes. Then, the game board 3 The game sphere

discharged at the upper part side is the game board 3. It falls below, usually winning a prize of winning—a-prize means 17 grade, or passing the 2nd change demand means 15, while falling along the face of a board, after going into the game field 11.

[0042] If the 2nd change demand means 15 detects a game sphere, it will judge whether by the change demand, the 2nd game lottery means 56 casts lots in the generating random number value at the time, and the 2nd game judging means 57 changes into the 2nd game state from the lottery random number value, and the 2nd change display-control means 61 will fluctuate the pattern of the 2nd change pattern display means 13 by the judgment result.

[0043] And when the judgment result of the 2nd game judging means 57 is the 2nd game judging, the halt pattern after change of the 2nd change pattern display means 13 becomes predetermined modes, such as "7", and the 2nd profits state by the 2nd profits state generating means 58 occurs, and it is opening-and-closing presser-foot-stitch-tongue 14a of the 1st change demand means 14. Predetermined-time opening is carried out and it becomes easy for a game sphere to win a prize to this 1st change demand means 14.

[0044] If the 1st change demand means 14 detects a game sphere, based on the change demand, the 1st game lottery means 53 will cast lots in a generating random number value, it will judge whether the 1st game judging means 54 generates the 1st game state from the lottery random number value, and the instruction information transmitting means 59 will transmit predetermined instruction information to the display-control substrate 51 according to the judgment result.

[0045] That is, the instruction information transmitting means 59 transmits the instruction information containing the 1st non-game judging and change time to the display-control substrate 51, respectively, when the judgment result of the 1st game judging means 54 is the 1st non-game judging about the instruction information which contains the 1st game judging and change time when the judgment result of the 1st game judging means 54 is the 1st game judging.

[0046] The instruction information analysis means 62 receives the instruction information from the instruction information transmitting means 59, in the display-control substrate 51, when the judgment result of the 1st game judging means 54 is the 1st game judging, the 1st game judging and change time are analyzed from instruction information, and in the 1st non-game judging, the 1st non-game judging and change time are analyzed from instruction information, respectively.

[0047] And when the judgment result of the 1st game judging means 54 is the 1st game judging, the 1st pattern control means 63 rotate rotating drums 19-21 in the predetermined direction with drive motors 22-24 based on instruction information, and indicate the 1st pattern 43-45 corresponding to the pattern viewing area 31 by change by rotation of these rotating drums 19-21. And after carrying out predetermined-time rotation, rotating drums 19-21 stop in order of the left, the right, and inside, and each rotating drums 19-21 are rotating drums 20 and 21. Check-by-looking sections 20d and 21d It corresponds to the pattern viewing area 31.

[0048] On the other hand, it is the 1st pattern 44 and 45. They are rotating drums 20 and 21 to an identifiable speed by viewing. When rotational speed falls, the 2nd pattern control means 64 are the 1st pattern 44 and 45. It synchronizes with a change display and is the 2nd pattern 46 and 47 of the liquid crystal display means 25. Change is made to start. And the check-by-looking sections 20d and 21d They are rotating drums 20 and 21 so that it may correspond to the pattern viewing area 31. When it stops, they are rotating drums 20 and 21. The 1st pattern 44 and 45 by rotation The 2nd pattern 46 and 47 of a change display to the liquid crystal display means 25 It changes to the change display to depend and is the 2nd pattern 46 and 47. It changes with other animation proper display gestalten with a predetermined change pattern.

[0049] For example, when the 1st pattern 43 of a rotating drum 19 stops by "7" corresponding to the winning-a-prize line 36 of a central longitudinal direction, it stops so that the 2nd pattern 47 of the liquid crystal display means 25 may display "7" on the winning-a-prize line 36 after a halt of a rotating drum 21, and it stops so that the 2nd pattern 46 of the liquid crystal display means 25 may display "7" on the winning-a-prize line 36 subsequently to after a halt of a rotating drum 20. All the halt patterns on the central winning-a-prize line 36 serve as a specific mode which displays "7" of an of-the-same-kind pattern by this.

[0050] If the halt pattern after change of the 1st change pattern display means 12 serves as a specific mode, the 1st profits state generating means 55 works after that, the 1st profits state advantageous to a game person occurs, the adjustable winning-a-prize means 16 opens wide to an anterior, a game sphere becomes easy to win a prize, and a game person can enjoy great profits. In addition, the adjustable winning-a-prize means 16 will close the opening-and-closing board 48, if a predetermined time passes since opening of the opening-and-closing board 48 or the game sphere of a predetermined number wins a prize. Moreover, if a game sphere passes through the specific field 49 during opening of the adjustable winning-a-prize means 16, the adjustable winning-a-prize means 16 will open wide again, and will repeat the same switching action a maximum of 16 times hereafter.

[0051] Thus, the change display of the 1st pattern 43-45 by rotation of rotating drums 19-21 and the 2nd pattern 46 and 47 by the liquid crystal display means 25 By combining a change display, as compared with the change display only by the conventional rotating drums 19-21, on the basis of mechanical composition, though, the uniform change display of a pattern can be prevented, and the production nature of a change display of a pattern can be raised.

[0052] Moreover, two rotating drums 20 and 21 The liquid crystal display means 25 is established inside, and they are the rotating drums 20 and 21. After a halt, it is the 2nd pattern 46 and 47 of this liquid crystal display means 25. If it is made to stop at the end any they are, it will be the 2nd pattern 46 and 47 of the liquid crystal display means 25. The stage effects of reach production can be raised and, moreover, it is the 2nd pattern 46 and 47. A fine production display is also possible.

[0053] Furthermore, it compares, when using other display meanses by using the liquid crystal display means 25, although it is also possible to replace with the liquid crystal display means 25, and to use electric display meanses, such as other image display meanses, and they are rotating drums 20 and 21 about the liquid crystal display means 25. It can arrange easily inside. Rotating drums 20 and 21 which adjoin each other especially Since it straddled and the liquid crystal display means 25 is established, they are each rotating drums 20 and 21. Control etc. can be made easy while being able to simplify structure as compared with the case where the liquid crystal display means 25 is separately established inside.

[0054] Drawing 8 and drawing 9 illustrate the 2nd operation form of this invention, and are rotating drums 19 and 21 at this operation form to the right-and-left both-sides portion in the pattern viewing area 31. It is arranged, respectively and they are these rotating drums 19 and 21. It is middle liquid crystal display means (middle display means) 25A to the middle of a between. They are the flank liquid crystal display meanses 25B and 25C to the interior of each rotating drums 19 and 21. It is arranged, respectively.

[0055] Middle liquid crystal display means 25A It responds to the vertical width of face of the pattern viewing area 31, and is 2nd pattern of middle 66A for two or more coma, for example, three coma,. Change and a halt display are possible and they are the flank liquid crystal display meanses 25B and 25C. It is middle liquid crystal display means 25A in the center of abbreviation of the vertical direction of the pattern viewing area 31. It is arranged at right-and-left both sides, and is the 2nd pattern 66B and 66C of a flank for one coma Middle liquid crystal display means 25A Flank liquid crystal display meanses 25B and 25C Although constituted by one in the shape of a cross joint, it is middle liquid crystal display means 25A. The whole may consist of vertical width of face in the shape of a rectangle. In addition, 2nd pattern of middle 66A and the 2nd pattern 66B and 66C of a flank It is constituted by the same 2nd pattern group as the 1st operation form.

[0056] each rotating drums 19 and 21 ***** -- flank liquid crystal display meanses 25B and 25C The check-by-looking sections 19d and 21d for one coma which can check the 2nd pattern 66B and 66C of a flank by looking The check-by-looking sections 19d and 21d The covered sections 19e and 21e of an except It is prepared. Other composition is the same as that of the 1st operation form.

[0057] In this case, pattern change of the 1st change pattern display means 12 is faced, and they are rotating drums 19 and 21, for example by control of the 1st pattern control means 63. While rotating, it is middle liquid crystal display means 25A. 2nd pattern of middle 66A It changes. Then, the left rotating drum 19 stops and it is flank liquid crystal display means 25B. 2nd pattern of flank 66B It changes, subsequently the right rotating drum 21 stops, and it is flank liquid crystal display means 25C. 2nd pattern of flank 66C It changes. And each liquid crystal display meanses 25A, 25B, and 25C 2nd pattern 66A -66C It stops in order of the left, the right, and inside.

[0058] Thus, when displaying two or more patterns in the pattern viewing area 31 at a longitudinal direction, they are rotating drums 19 and 21 to both sides. It arranges and is middle liquid crystal display means 25A to the middle. You may constitute arranging etc. so that some patterns may be indicated by change by the liquid crystal display means 25. Moreover, middle liquid crystal display means 25A To both sides, they are each rotating drums 19 and 21. Flank liquid crystal display meanses 25B and 25C arranged inside When preparing, it is the middle liquid crystal display means 25A. Flank liquid crystal display meanses 25B and 25C It can simplify also structurally and in [constitute / in one] control.

[0059] In the case of the size as which the pattern viewing area 31 can display the pattern for two or more coma in the vertical direction, they are the flank liquid crystal display meanses 25B and 25C. They are rotating drums 19 and 21 so that it may illustrate. Liquid crystal display meanses 25B and 25C arranged inside It is good like the one coma or two coma as for a size which can display the pattern of a part of coma.

[0060] Drawing 10 illustrates the 3rd operation form of this invention, and is the 2nd pattern 46 and 47 for two or more coma to the hoop direction of rotating drums 19-21 at this operation form. The liquid crystal display means 25 which indicates by change is constituted in the shape of crookedness for every coma in accordance with the peripheral surface of rotating drums 19-21. It is the 2nd pattern 46 and 47 for two or more coma to the vertical direction in the pattern viewing area 31. When indicating by change by the liquid crystal display means 25, you may constitute the liquid crystal display means 25 in the shape of crookedness in this way.

[0061] Drawing 11 illustrates the 4th operation gestalt of this invention, and is the 2nd pattern 46 and 47 for two or more coma to the hoop direction of rotating drums 19-21 at this operation gestalt. The liquid crystal display means 25 which indicates by change is circularly constituted in accordance with the peripheral surface of rotating drums 19-21. It is the 2nd pattern 46 and 47 for two or more coma to the vertical direction in the pattern viewing area 31. When indicating by change by the liquid crystal display means 25, in this way, the liquid crystal display means 25 may be incurvated circularly, and may be established.

[0062] Drawing 12 illustrates the 5th operation gestalt of this invention, with this operation gestalt, two or more liquid crystal display meanses 25 are formed in the interior of rotating drums 19-21 for every coma of the hoop direction, and each of that liquid crystal display means 25 is arranged stair-like along with the inner skin of rotating drums 19-21 at the cross direction. Thus, when displaying the 2nd pattern 46 for two or more coma on the hoop direction of rotating drums 19-21 by the liquid crystal display means 25, the liquid crystal display means 25 of each coma unit may be arranged stair-like, and you may constitute so that it may make it display that the 2nd pattern 46 changes continuously ranging over each of that liquid crystal display means 25.

[0063] As mentioned above, although each operation gestalt of this invention was

explained in full detail, this invention is not limited to each operation gestalt. For example, two pieces or ***** [the number of rotating drums 19-21 / four] or more although the 1st change pattern display means 12 equipped with three rotating drums 19-21 is illustrated with the operation gestalt. Moreover, when using two or more rotating drums 19-21, each of those rotating drums 19-21 establish the driving shafts 40-42 of drive motors 22-24, and other one shaft which it supports separately more and also is penetrated to two or more rotating drums 19-21, and you may make it support each rotating drums 19-21 with the shaft. You may use things other than a drive motor 22 - 24 for driving means. Moreover, two or more rotating drums 19-21 mind a clutch etc. by one driving means, and it drives separately and they may enable it to suspend it separately.

[0064] Although the rotating drums 19-21 of instantiation are the most suitable for an operation gestalt, things other than a rotating drum 19 - 21, for example, a predetermined configuration, and the rotation reel of structure may be used for a time fuselage, and other rotation belts are used for it, and ranging over two or more guide rollers etc., you may wind the rotation belt around it almost so that it may correspond to the pattern viewing area 31.

[0065] Drum section 19c of the shape of a cylinder of rotating drums 19-21 - 21c, and rotating drums 20 and 21 by which the liquid crystal display means 25 has especially been arranged inside Drum sections 20c and 21c You may constitute the whole in the shape of transparence possible [a check by looking]. In this case, the check-by-looking sections 20d and 21d Even if the position of an except corresponds to the liquid crystal display means 25, they are rotating drums 20 and 21. The 1st near pattern 44 and 45 It is possible to direct a background by the display of the liquid crystal display means 25.

[0066] It is not necessary to necessarily arrange in the center of abbreviation of the vertical direction of the pattern viewing area 31, and that what is necessary is to make it correspond to the pattern viewing area 31, and just to arrange, like instantiation in an operation form, a top or the bottom is made to bias and the liquid crystal display means 25 can also be arranged, when the pattern of two or more coma can be displayed on the pattern viewing area 31 in the vertical direction. Therefore, it is made to correspond to positions other than winning-a-prize line 36, and the liquid crystal display means 25 can also be arranged. However, in order to aim at improvement in the stage effects by the liquid crystal display means 25, it is desirable to arrange the liquid crystal display means 25 so that it may be located on the winning-a-prize line 36.

[0067] the 1st operation gestalt — the 1st pattern 43 of one rotating drum 19, and the 2nd two pattern 46 and 47 of the liquid crystal display means 25 It constitutes so that one of the specific modes may be displayed in the combination of a halt pattern. Moreover, at the 2nd operation gestalt, they are three liquid crystal display meanses 25A, 25B, and 25C. 2nd pattern 66A -66C Although it constitutes so that one of the specific modes may be displayed in the combination of a halt pattern

When the liquid crystal display means 25 has been arranged in positions other than winning-a-prize line 36, a specific mode will be displayed in the combination of the halt pattern of the 1st pattern 43-45 by the side of a rotating drum 19-21. Moreover, they are two or more pattern 66A of all on the winning-a-prize line 36 - 66C like the 2nd operation gestalt. Liquid crystal display meanses 25A, 25B, and 25C When making it display, it is 2nd pattern 66A -66C after a change halt. It is also possible to display a specific mode only in combination.

[0068] If in charge of control of rotating drums 19-21 and the liquid crystal display means 25, they are the check-by-looking sections 20d and 21d. It is in the state where rotating drums 19-21 were stopped so that it may correspond to the liquid crystal display means 25, and it is the 2nd pattern 46 and 47 by the liquid crystal display means 25. A change display is performed, rotating drums 19-21 are rotated after that, and you may make it make it stop. In this case, when stopping rotating drums 19-21 finally, they are not necessarily the check-by-looking sections 20d and 21d. It is not necessary to make it stop so that it may correspond to the liquid crystal display means 25. Five winning-a-prize lines 36 which judge whether it is a specific mode are set up like an operation gestalt, and also lateral three are sufficient as them and 1 or 2 are sufficient as them.

[0069] The 1st pattern control means 63 are the check-by-looking sections 20d and 21d. The state corresponding to the liquid crystal display means 25, and rotating drums 20 and 21 The covered sections 20e and 21e It chooses any in the state of covering the anterior of the liquid crystal display means 25 they are, and constitutes possible [halt control], the need is accepted by formation of a game judging result and other predetermined conditions, and they are rotating drums 20 and 21 at the any. You may make it make it stop.

[0070] In this case, the check-by-looking sections 20d and 21d By making it correspond to the liquid crystal display means 25, it is the 2nd pattern 46 and 47. Only the 1st pattern 43-45 of rotating drums 19-21 can be used for the display of a specific mode and a non-specifying mode by being able to use for the display of a specific mode and a non-specifying mode, and making the covered sections 20e and 21e correspond to the liquid crystal display means 25. However, the check-by-looking sections 20d and 21d They are rotating drums 20 and 21 so that it may not be located in the pattern viewing area 31. It is necessary to make it stop. moreover, rotating drums 20 and 21 The covered sections 20e and 21e The 2nd pattern 46 and 47 for two or more coma of the liquid crystal display means 25 inside -- the -- a part -- the 2nd pattern 46 and 47 of a coma You may make it stop so that it may cover.

[0071] Although it is possible to use various kinds of things, such as a dot formula display means and 7 segment formula display meanses, for a display means in addition to liquid crystal display means 25, it is the 2nd pattern 46 and 47 electrically. It is desirable to adopt a controllable display means. Moreover, in an operation form, although illustrated about the 1st change pattern display means 12, it can carry out

similarly with the 2nd change pattern display means 13. Of course, it can carry out also with a game machine without the 2nd change pattern display means 13.

[0072] In various kinds of game machines, such as pinball machines, such as arrangement ball machines other than a pachinko machine, and a mahjong ball game machine, or a slot machine, it can carry out similarly. When adopting it as a slot machine, they are rotation of each rotating drums 19-21, and the 2nd pattern 46 and 47 of a display means. What is necessary is just to constitute change etc. so that it may stop suitably according to a game person's deactivate request.

[0073] The 2nd pattern [means / display] 46, 47, 66B, and 66C of plurality / coma / one] It constitutes so that it may indicate by halt, and they are two or more of the 2nd patterns 46, 47, 66B, and 66C. You may make it two or more kinds of value arise. Moreover, it is made to rotate to the circumference of a horizontal axis, and also you may make it rotate each rotating drums 19-21 to the circumference of a vertical axis, or the circumference of a slanting shaft.

[0074]

[Effect of the Invention] Two or more time fuselages 19-21 with which two or more kinds of 1st pattern 43-45 required for a game was expressed according to this invention, It is arranged inside the driving means 22-24 which drive separately each of these time fuselages 19-21, and two or more time fuselages 19-21, and it corresponds to these time fuselages 19-21, and is the 2nd pattern 46, 47, 66B, and 66C. Since it has the display meanses 25, 25B, and 25C in which a change display is possible On the basis of mechanical composition, while, the uniform change display of a pattern can be prevented and the production nature of a change display of a pattern can be raised.

[0075] Moreover, the 2nd pattern 46, 47, 66B, and 66C Since it has the 2nd pattern control means 64 which make it change, and a predetermined pattern is chosen [control means] from two or more kinds of 2nd patterns 46, 47, 66B, and 66C, and indicate by halt, it is the 2nd pattern 46, 47, 66B, and 66C. Production nature can be raised by change display.

[0076] and the 2nd pattern 46, 47, 66B, and 66C at least a part — the 1st — since it is value equivalent to pattern 43-4543-45 — this 2nd pattern 46, 47, 66B, and 66C It can consider, a profits state can be generated and a game person's interest can be raised further. Since the display meanses 25, 25B, and 25C are arranged ranging over two or more adjacent time fuselages 19-21, it can do simply structurally and control can also be made easy.

[0077] Furthermore, two or more time fuselages 19 and 21 In between, they are the display meanses 25B and 25C. Middle display means 25A of the same kind is arranged. This middle display means 25A They are each time fuselages 19 and 21 to both sides. Each display meanses 25B and 25C by the side of the interior Since it has prepared in one, two or more time fuselages 19 and 21 and middle display means 25A And time fuselages 19 and 21 Inner display meanses 25B and 25C structural, while being able to direct pattern change — it can do in control and simply

[0078] Moreover, the time fuselages 19-21 by which the display meanses 25, 25B, and 25C have been arranged inside Display meanses 25 and 25B and 19d [of check-by-looking sections which can check the 25C side by looking] - 21d It has and is 19d [of check-by-looking sections] - 21d after rotation. So that it may stop corresponding to the display meanses 25, 25B, and 25C the state where the time fuselages 19-21 were stopped since it had the 1st pattern control means 63 which rotate the time fuselages 19-21 and fluctuate the 1st pattern 43-45 -- the 2nd pattern 46, 47, 66A, and 66B of the display meanses 25, 25B, and 25C It can direct.

[0079] Furthermore, the time fuselages 19-21 by which the display meanses 25, 25B, and 25C have been arranged inside Display meanses 25 and 25B and 19d [of check-by-looking sections which can check the 25C side by looking] - 21d Covered section 19e - 21e which cannot be checked by looking It prepares for a hoop direction. It is 19d [of check-by-looking sections] - 21d after rotation. Covered section 19e - 21e So that it may stop alternatively corresponding to the display meanses 25, 25B, and 25C Since it has the 1st pattern control means 63 which rotate the time fuselages 19-21 and fluctuate the 1st pattern 43-45 The 2nd pattern 46, 47, 66A, and 66B of the display meanses 25, 25B, and 25C The production to depend and the 2nd pattern 46, 47, 66A, and 66B The production which is not used can be chosen if needed.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the front view of the pinball machine in which the 1st operation form of this invention is shown.

[Drawing 2] It is the front view of the 1st change pattern display means which shows the 1st operation form of this invention.

[Drawing 3] It is the side cross section of the 1st change pattern display means which shows the 1st operation form of this invention.

[Drawing 4] It is the transverse-plane cross section of the 1st change pattern display means which shows the 1st operation form of this invention.

[Drawing 5] It is the flat-surface cross section of the 1st change pattern display means which shows the 1st operation form of this invention.

[Drawing 6] It is the block diagram of a control system showing the 1st operation form of this invention.

[Drawing 7] It is explanatory drawing of the 1st pattern and the 2nd pattern which show the 1st operation form of this invention.

[Drawing 8] It is the transverse-plane cross section of the 1st change pattern display means which shows the 2nd operation form of this invention.

[Drawing 9] It is the flat-surface cross section of the 1st change pattern display means which shows the 2nd operation form of this invention.

[Drawing 10] It is the side cross section of the 1st change pattern display means which shows the 3rd operation form of this invention.

[Drawing 11] It is the side cross section of the 1st change pattern display means which shows the 4th operation form of this invention.

[Drawing 12] It is the side cross section of the 1st change pattern display means which shows the 5th operation form of this invention.

[Description of Notations]

19-21 Rotating drum (time fuselage)

19d -21d Check-by-looking section

19e -21e The covered section

22-24 Drive motor (driving means)

25 Liquid Crystal Display Means

25A Middle liquid crystal display means

25B, 25C Flank liquid crystal display means

43-45 The 1st pattern

46-47 The 2nd pattern

55 1st Profits State Generating Means

63 1st Pattern Control Means

64 2nd Pattern Control Means

66A The 2nd pattern of middle

66B, 66C The 2nd pattern of a flank

[Translation done.]

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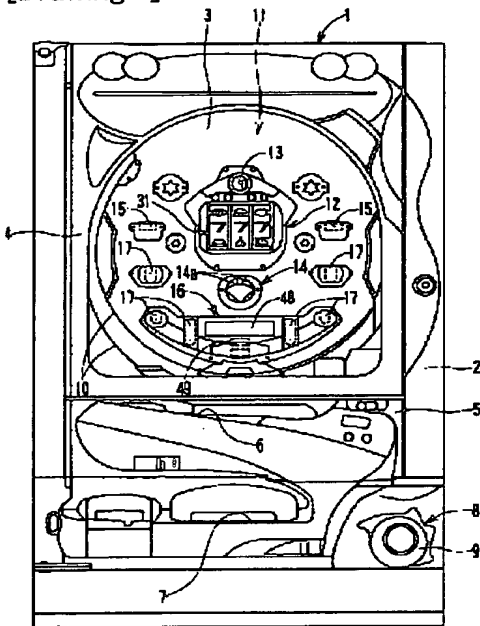
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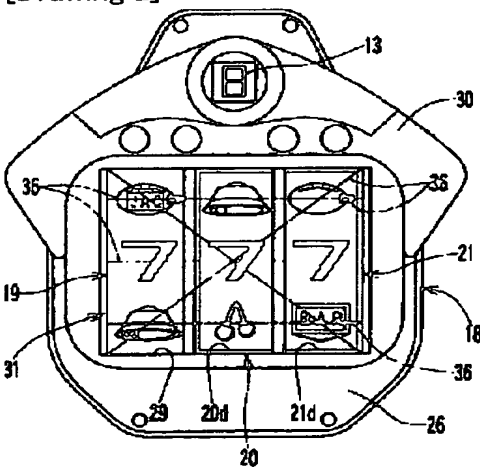
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DRAWINGS

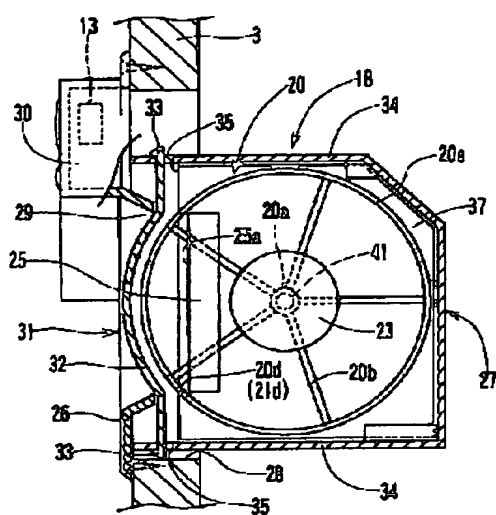
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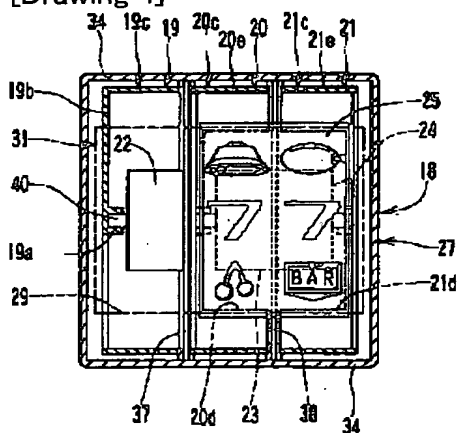
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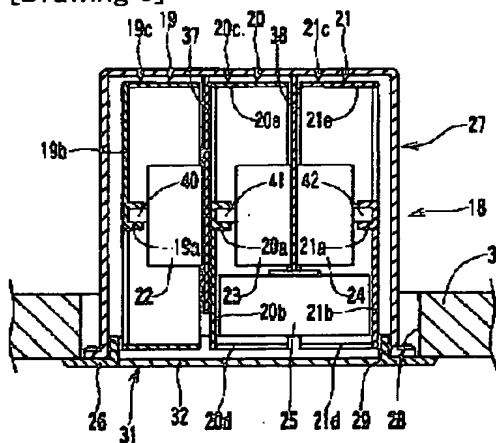
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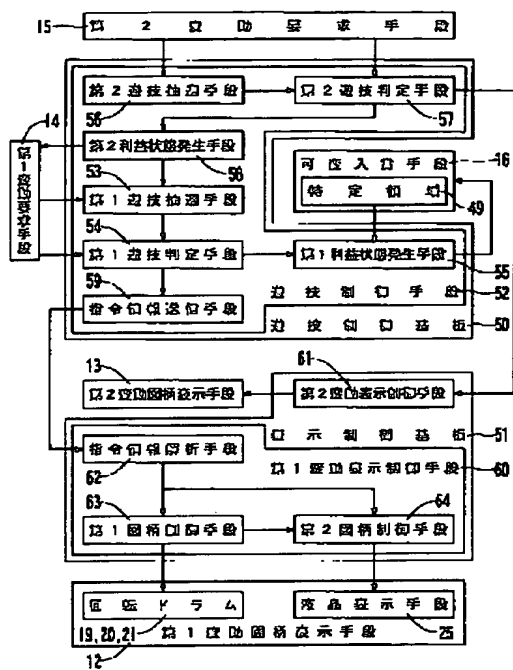
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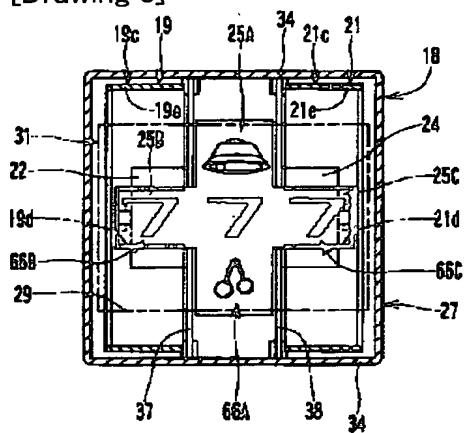
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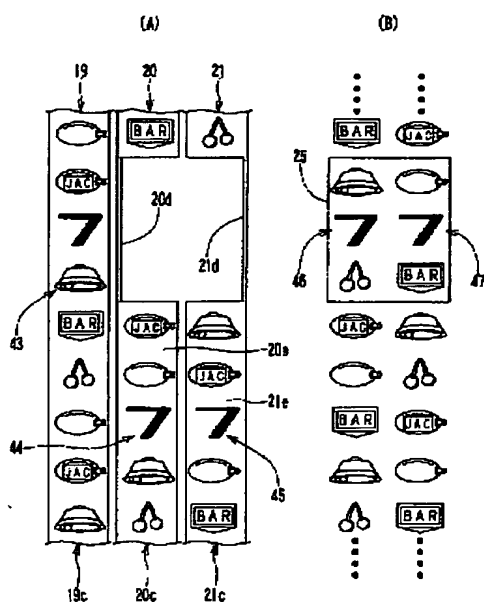
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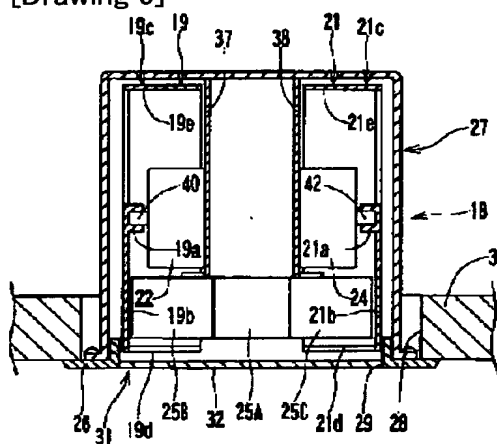
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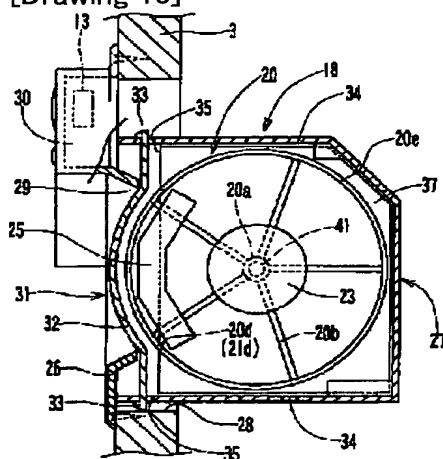
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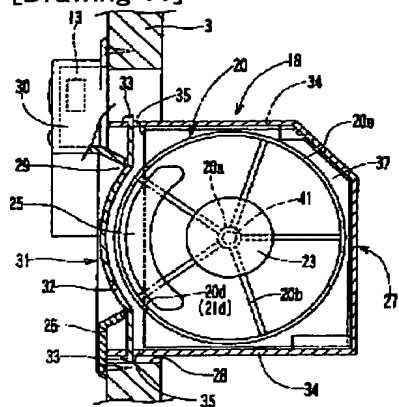
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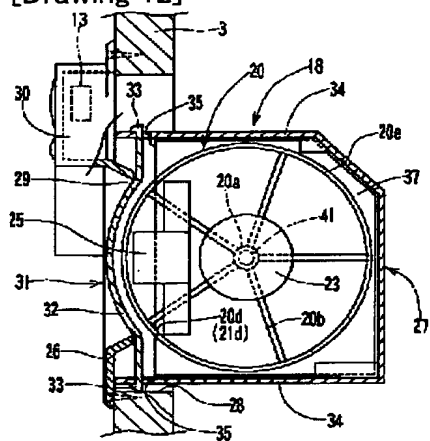
[Drawing 10]



[Drawing 11]



[Drawing 12]



[Translation done.]